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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,314	11/20/2000	Mark Saliterman	13432.1US01 ✓	8681

23552 7590 07/25/2003

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RESP-3/PTA: Oct 25, 2003  
RESP-STAT: Jan 25, 2004

NPJ

EXAMINER

GRIER, LAURA A

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 07/25/2003



Please find below and/or attached an Office communication concerning this application or proceeding.

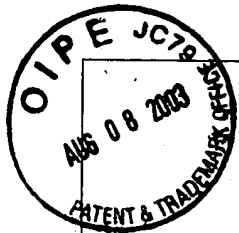
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AUG 12 2003

Technology Center 2600

703-305-4386 SP in Art unit

James Dwyer spoke with (Director)



# Office Action Summary

Application No.	Applicant(s)	
09/239,539	DINGER ET AL.	
Examiner	Art Unit	
Brian C Genco	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

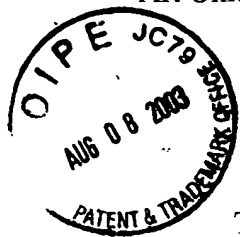
## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

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***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,433,911 to Ozimek et al) in view of (USPN 5,646,443 to Takahashi).

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In regards to claim 1 Ozimek discloses a microelectronic device which is formed of a parallel piped plate (e.g., plate formed of integral elements 12 and 14 of Fig. 1 and 12a and 14a of Fig. 2), wherein at least one sensor is formed (e.g., elements 18 and 18a of Figs. 1 and 2 respectively), and which carries positioning means formed of sets of studs deposited on the plate (e.g., elements 16 and 16a of Figs. 1 and 2 respectively), to assure positioning of the device relative to a complementary part (e.g., spacers or studs 16 and 16a assure spatial positioning between the image sensor element 18 and the cover plates elements 14 and 12 of Fig. 1 and 14a and 12a of Fig. 2), in which said face defines a plane (e.g., the plane formed by the x-axis of Figs. 1 and 2), wherein said positioning means include a third set of studs for defining said position along a third axis, perpendicular to said plane (e.g., studs 16 position the image sensor relative to the plate as discussed above in the y-axis direction of Figs. 1 and 2). Ozimek does not disclose nor preclude a first set of studs or a second set of studs.

Takahashi discloses providing a first and second set of studs for mounting a cover for an integrated circuit (IC) in order to eliminate time losses due to positioning a cap in the horizontal directions (e.g., Fig. 3A; column 3, lines 7-11). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have added Takahashi's first and second studs to Ozimek's invention in order to eliminate time losses due to positioning a cap in the horizontal directions and thus enhance efficient assembly. Examiner notes that any two of the studs shown in Fig. 3A can be defined as the first set of studs and the remaining two be defined as the second set of studs since each stud positions in both horizontal directions parallel to the plane. For the purposes of examination examiner is defining the two studs in the back

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surrounding the label for element 5 to be the first set of studs and the other studs to be the second set of studs.

In regards to claim 2 the third set of studs is lower since they are under the plate and the first and second extend above the plate.

In regards to claim 3 as seen in Fig. 3A of Takahashi the first and second studs have the same height.

In regards to claim 5 see examiners notes on the rejection of claim 1. Examiner notes that the first face is the face resting on the bottom portion of the first set of studs shown in Fig. 3A.

In regards to claim 6 see examiners notes on the rejection of claim 1. Note that the second set includes one stud, namely the one farthest down on the page as shown in Fig. 3A wherein the part rests on the side of the stud via the middle of a second face, namely the middle of the face of the part rests on the leftmost portion of the stud. Note that the first face and second face are orthogonal to each other.

In regards to claim 7 the part rests on the third set of studs via a face that is orthogonal to the first two faces. Examiner notes that Ozimek et al. only shows a side view of the third set of studs wherein only two are shown, however it would be readily obvious to anyone skilled in the art that as many as 3 or 4 studs would be used to properly support the plate. Further Ozimek discloses that additional spacers can be used (e.g., column 2, lines 59-61). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have had at least three studs in order to properly support the plate.

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In regards to claim 8 Examiner notes that it is extremely well known in the art to use microlenses with image sensors to as to increase the sensitivity of the image sensor by focusing more light on the image sensor. Official notice is taken. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have made element 12 of Ozimek into microlenses complementary to the image sensor in order to increase the sensitivity of the image sensor by focusing more light on the image sensor.

In regards to claim 9 see examiners notes on the rejection of claims 1 and 8.

In regards to claims 10 and 11 Ozimek discloses a optical adhesive (Fig. 2; column 2, lines 45-54).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,433,911 to Ozimek et al) in view of (USPN5,646,443 to Takahashi) in further view of (USPN 6,020,646 to Boyle et al).

In regards to claim 4 see examiners notes on the rejection of claim 1. Boyle discloses conductive bonding balls for connecting the CCD pads to the carrier and thus allowing for connection to other integrated circuits (e.g., Figs. 1-5; column 6, line 65 – column 7, line 63). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have added the studs disclosed in Figs. 1-5 in order to allow for connection to other circuits. Examiner notes that it is notoriously well known in the art to provide image signals generated from an image sensor to an electronic signal processing circuit in order to provide well known signal processing functions such as A/D conversion, compression, etc. Official notice is taken. Therefore it would have been obvious to one of ordinary skill in the art at the

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time of the invention to have made the outputs of the carrier be connected to an electronic signal processing circuit in order to provide well known signal processing functions such as A/D conversion, compression, etc.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:00am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center 2600 customer service office whose telephone number is 703-306-0377.

Brian C Genco  
Examiner  
Art Unit 2615

July 23, 2003

  
ANDREW CHRISTENSEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600